

hours to take in an amount of tar equivalent to that inhaled by the smoker of an average cigarette and 50 hours to take in the equivalent amount of nicotine. Similar estimates can be made from other studies,¹⁻⁴ suggesting that in terms of dose one passively smoked cigarette is equivalent to a very small fraction of one actively smoked cigarette. In Dr Hirayama's study, on the other hand, elevations of lung cancer risk in active smokers of about five cigarettes a day are similar to those seen in non-smoking women married to smokers of 20 or more cigarettes a day. As these husbands are stated to smoke only 8-4 cigarettes a day at home and these presumably not all in the presence of the wife, his results are implicitly suggesting that in terms of lung cancer response, one actively smoked cigarette and one passively smoked cigarette are virtually equivalent.

This contrast is so striking that one must seriously doubt whether the elevated lung cancer risk seen in non-smoking wives of smokers, statistically significant as it may be, is really caused by the passive smoke exposure. It seems far more likely that the explanation lies in some hitherto undiscovered confounding or biasing factor.

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- ¹ Garfinkel L. *J Nat Cancer Inst* 1981;66:1061-6.
² Trichopoulos D, Kalandidi A, Sparros L, MacMahon B. *Int J Cancer* 1981;27:1-4.
³ Hugod C, Hawkins LH, Astrup P. *Int Arch Occup Environ Health* 1978;42:21-9.
⁴ Repace JL, Lowrey AH. *Science* 1980;208:464-72.
⁵ Hinds WC, First MW. *N Engl J Med* 1975;292:844-5.
⁶ Russell MAH, Feyerabend C. *Lancet* 1975;i:179-81.

*We sent this letter to Dr Hirayama, who replies below.—ED, *BMJ*.

SIR,—Since in Garfinkel's paper the only data available were expected frequencies based on the risk for women with non-smoking husbands, similar calculations were attempted with the Japanese and Greek data and pre-

sented in table II. If Garfinkel had shown the complete data better comparison could have been made, as suggested by Mr Lee.

Mr Lee also worries about the data as they suggest that the risk of passive smoking is almost equivalent to that of light smoking. The only way to answer such questions must be by carrying out in-depth studies of the chronic toxicity of sidestream smoke and of health consequences resulting from prolonged exposure to passive smoking. The study by White and Froeb suggests a considerable effect on the airways from passive smoking.¹

I regret that errors have been found in the 95% confidence intervals shown in the figure in my last letter. The correct values are given in the accompanying figure. The errors do not, however, influence the substance of my letter.

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¹ White JR, Froeb HB. *N Engl J Med* 1980;302:720-3.

Diseases of modern civilisation

SIR,—Certainly we can all agree with the Revd H C Trowell and Dr D P Burkitt (7 November, p 1266) that there are several conditions that are uncommon in developing countries but have become increasingly common in the West. They add that in their book *Western Diseases: Their Emergence and Prevention* "there is little hard evidence that would warrant a recommendation for dietary change in these countries."

There is, however, a great deal of evidence, from experiments with laboratory animals and with human subjects, that one item in Western diets, in the quantities now commonly being consumed, produces a range of abnormalities

that indicate its likely involvement in producing some of the Western diseases (references given in a recent paper¹). Here is an abbreviated list: increased concentration of cholesterol and triglyceride, decreased concentration of high-density lipoprotein cholesterol, increased concentration of insulin and corticosteroids, and increased concentration of uric acid in the blood; impaired glucose tolerance; diminished tissue sensitivity to insulin; increased adhesiveness and aggregation of blood platelets; paradoxical electrophoretic behaviour of blood platelets; retinopathy; nephropathy indistinguishable both histologically and biochemically from that seen in diabetes mellitus. It is difficult to imagine that more evidence is needed to indict sugar as a likely cause of at least two of the "Western diseases," coronary heart disease and diabetes.

The average consumption of sugar is now about 1 kg a week in Western countries, 25 times what it was before the industrial revolution. Some people take two or three times this average. I see no problem about what should be the most sensible dietary recommendation we could be making.

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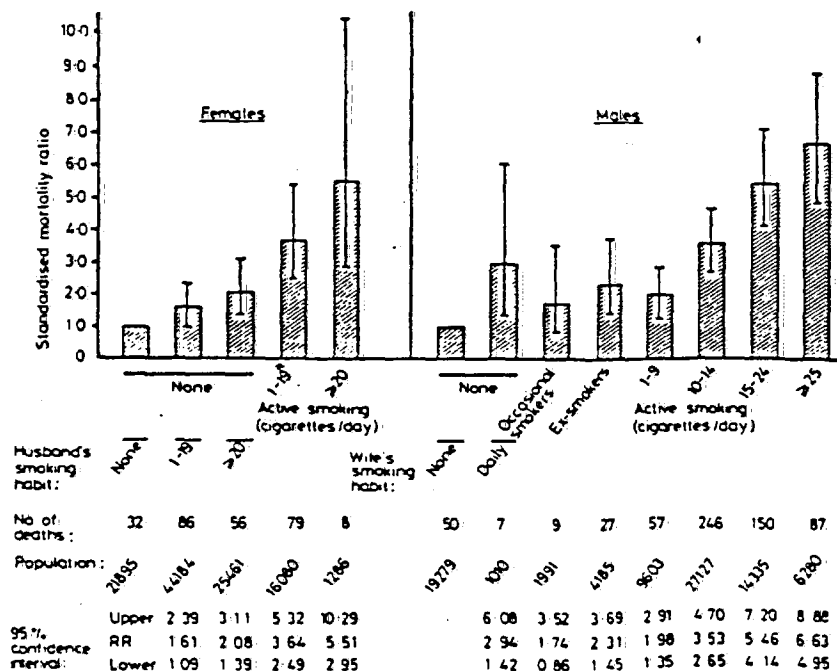
London NW3

¹ Yudkin J. *Am J Clin Nutr* 1981;34:1453.

Alcohol and alcoholism

SIR,—Dr Richard Smith's series of papers on alcoholism (26 September, p 835; 3 October, p 895; 10 October, p 972; 17 October, p 1043; 24 October, p 1108; 31 October, p 1170, and 7 November, p 1251) was timely and generally accurate and comprehensive, but I was surprised to see no reference to supervised disulfiram—one treatment which does seem to be of specific benefit in alcoholism. This has been shown in three well-designed controlled trials and there are no contrary findings. All the studies stress that supervised disulfiram is an extension of the therapeutic relationship and not a substitute for it.

Gerrein *et al*¹ found that 85% of patients given disulfiram twice weekly under supervision remained in treatment, compared with a maximum of 39% in patients who had once-weekly supervised disulfiram or unsupervised disulfiram treatment. The figures for those abstaining for a minimum of eight weeks were 40% compared with a maximum of 15%. Azrin² reported that for patients given the same intensive community-based psychotherapeutic and rehabilitative programme, those in whom the administration of disulfiram was supervised—usually by their wife—did vastly better than those on unsupervised medication. Drinking days were 2% for the supervised group against 55% for the unsupervised. Unemployment was 20% against 56%; and time spent in institutions was nil against 45%. This last figure has obvious financial implications. In an employee treatment programme, Robichaud *et al*³ found that absenteeism averaged 9.8% before treatment, 1.7% during treatment with twice-weekly supervised disulfiram given by the factory nurse, and 6.7% when treatment was discontinued. All these studies used a standard dose of disulfiram, which was probably inadequate for some patients, and no alcohol challenge was done.



¹Including occasional smokers and ex-smokers

Active and passive smoking and standardised mortality rates for lung cancer: relative risks (RR) with 95% confidence intervals—prospective study, 1966-79, Japan. (Revised version of figure published 3 October, p 917.)